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Applicant/Patentee:

WATERMAN, JOHN KARL

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Serial No.: 09/740.287

Examiner: To be Assigned

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Title: "FRAME PRE-WRITING IN A LIQUID CRYSTAL DISPLAY"

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37 CFR 1.10

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Honorable Commissioner for Patents
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PRELIMINARY AMENDMENT with AMENDED REPLACEMENT CLAIMS

Dear Sir:

Please enter the following replacement claims, pursuant to 37 C.F.R. §1.121(c), each replacement claim number replaces the correspondingly numbered prior pending claim. Immediately following the replacement claims reproduced hereinbelow is a marked-up version

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of the prior pending claims showing the amendments made thereto. Applicant respectfully submits that no amendments have been made to the pending claims for the purpose of overcoming any prior art rejections that would restrict the literal scope of the claims or equivalents thereof.

1. **(AMENDED)** A system for prewriting a video frame in a liquid crystal display, said system comprising:

a liquid crystal display (LCD) having a matrix of liquid crystal pixels, said matrix further divided into a plurality of sub-matrices of pixels;

at least one digital-to-analog converter (DAC) adapted to receive a digital input representative of an analog voltage and having an analog output adapted for applying the analog voltage to at least one of the pixels at a time;

a plurality of column switches adapted for coupling the analog output of said at least one DAC to at least one of a plurality of columns of said LCD;

a plurality of row switches adapted for selectively coupling the plurality of columns to the pixels of said LCD;

logic circuits for calculating an average voltage value for each of the plurality of sub-matrices from final voltage values associated with the pixels of each of the sub-matrices; and

logic circuits for controlling the plurality of column switches and the plurality of row switches so that each sub-matrix may be precharged with its calculated average voltage value, then each of the pixels charged with the final voltage value representative of that portion of the video frame represented by that pixel.

21. **(AMENDED)** A liquid crystal display (LCD), comprising:

a matrix of liquid crystal pixels, said matrix further divided into a plurality of sub-matrices of pixels;

at least one digital-to-analog converter (DAC) adapted to receive a digital input representative of an analog voltage and having an analog output adapted for applying the analog voltage to at least one of the pixels at a time;

a plurality of column switches adapted for coupling the analog output of said at least one DAC to at least one of a plurality of columns of said LCD;

a plurality of row switches adapted for selectively coupling the plurality of columns to the pixels of said LCD;

logic circuits for calculating an average voltage value for each of the plurality of sub-matrices from final voltage values associated with the pixels of each of the sub-matrices; and

logic circuits for controlling the plurality of column switches and the plurality of row switches so that each sub-matrix may be precharged with its calculated average voltage value, then each of the pixels charged with the final voltage value representative of that portion of the video frame represented by that pixel.